

**Amendments to the Claims:**

1-9. (cancelled)

10. (new) An infrared thermometer for determining a temperature of a first body site of a patient by a measurement taken at a second body site, said thermometer having

an infrared sensor for detecting a surface skin temperature at said second body site and for producing surface temperature signal data;

sensor means for measuring a reference temperature and for producing reference operating temperature signal data;

a calculating unit; and

a memory associated with the calculating unit;

said memory having reference data stored therein,

said calculating unit being adapted to calculate an estimated temperature of said first body site on the basis of said skin surface temperature data, said concurrently detected reference operating temperature data and said reference data.

11. (new) A thermometer according to claim 10, wherein said sensor means is arranged within said infrared sensor.

12. (new) A thermometer according to claim 10, wherein said reference data are stored in a non-volatile memory.

13. (new) A thermometer according to claim 10, wherein the calculating unit is adapted to determine the sum of said body surface skin temperature data and a physiological site offset value, determined on the basis of said detected reference operating temperature data, the concurrently measured body surface skin temperature data and said reference data wherein is equivalent to the temperature difference between the first body site and the corresponding second body site.

14. (new) A thermometer according to claim 10, wherein the temperature of the first body site is calculated on the basis of linear interpolation.

15. (new) A thermometer according to claim 10, wherein lookup tables are stored in said memory, said lookup tables having a first group of data relating to measured body surface skin temperature values at a second body site made during prior clinical tests, a second group of data relating to ambient temperature values concurrently measured during said prior clinical tests and a third group of data relating to temperature values measured at the first body site during said prior clinical tests.

16. (new) A thermometer according to claim 10, wherein the thermometer has a measuring mode and a calibration mode, and wherein the thermometer has means for switching between said modes.

17. (new) A thermometer according to claim 10, wherein the thermometer has at least two different measuring modes, where the temperature at different first body sites are calculated on the basis of different sets of lookup tables stored in said memory for different measuring modes.

18. (new) A method for determining a temperature of a first body site of a patient with an infrared thermometer, the method comprising the steps of

measuring a body surface skin temperature at a second body site and producing body surface skin temperature signal data;

measuring a temperature of a reference site and producing reference operating temperature signal data,

accessing a lookup table with prior clinical test data stored in a memory in the infrared thermometer based on the measured temperature data and,

calculating an estimated temperature of said first body site on the basis of said body surface skin temperature signal data, and said reference temperature signal data and said reference data accessed in said lookup table.

19. (new) A thermometer according to claim 10, wherein said reference site temperature is a cold junction of a thermopile.

20. (new) A thermometer according to claim 10, wherein said reference site temperature is ambient temperature.

21. (new) A thermometer according to claim 10, wherein said reference data is derived from clinical tests.

22. (new) A thermometer according to claim 10, wherein said reference temperature is ambient temperature or the temperature of a cold junction of said infrared sensor.

23. (new) A thermometer according to claim 10, wherein the first body site is a rectal or oral site.

24. (new) A thermometer according to claim 10, wherein the second body site is a skin surface.

25. (new) An infrared thermometer for determining a temperature of a first body site of a patient by a measurement at a second body site said thermometer having  
an infrared sensor for detection of a surface skin temperature at said second body site  
and for producing surface temperature signal data;  
sensor means for measuring a reference temperature and for producing reference  
operating temperature signal data;  
a calculating unit; and  
a memory associated with the calculating unit;  
said memory having reference data, preferably derived from clinical tests, stored  
therein,

said reference data arranged in lookup tables,  
said lookup tables having a first group of data relating to measured body surface skin  
temperature values at a second body site made during prior clinical tests, a second group of  
data relating to ambient temperature values concurrently measured during said prior clinical  
tests and a third group of data relating to temperature values measured at the first body site  
during said prior clinical tests,

said calculating unit being adapted to calculate an estimated temperature of said first body site on the basis of said surface temperature data, said concurrently detected reference operating temperature data and said lookup tables.

26. (new) A thermometer according to claim 25, wherein said reference temperature is ambient temperature or the temperature of a cold junction of said infrared sensor.

27. (new) A thermometer according to claim 25, wherein the first body site is a rectal and oral site.

28. (new) A thermometer according to claim 25, wherein the second body site is a skin surface.